EXTECH INSTRUMENTS

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PRODUCT DATASHEET

# S1500T Series

## Ultra Lightweight 2.25" (57mm) Portable Receipt Printer

### Designed for multiple applications

- *Compact, contemporary design without sacrificing durability and performance*
- *Lightweight - weighs less than a pound (with paper and battery)*
- *Easy to wear all day long: belt loop or shoulder strap system options*
- *Simple Vehicle mount system option**
- *Desktop use option**

### Trouble-free operation

- *Ready to use - portable version comes complete with paper, adaptor, and battery*
- *State-of-the-Art Integrated Micro-Processor*
  - *– Faster Printing – Reduces Print Time per Receipt*
  - *– Flash Memory – Add Logos, Bar codes and other Graphic Elements*
- *In-field programming – Upgrade Firmware, Download Fonts and Logos*
- *High capacity Lithium-Ion battery – More Receipts per Charge*
- *Easy load clamshell style paper load system with press button release for paper door*
- *12 month warranty (including printhead)*
  - *-Optional extended warranty programs available*

### Multiple communications options

- *RS232 (Standard)*
- *Uniquely designed IrDA communication system (Standard)*
- *Optional integrated Bluetooth™*
- *Optional 3-Track Magnetic Card Reader*

### Typical applications include

- *Field Service: Invoicing and Credit Card Receipts*
- *Route Accounting; Presales & DSD*
- *Ticketing: Transportation and Public Safety*
- *Fixed station* or Mobile POS and Hospitality*

## S1500T Design Details:

**Power:**

- Powered battery or by mains:
  - -High capacity Lithium-Ion battery cartridge
  - -Variable input desktop or vehicle supply*
- Battery charges internally to the printer or in external battery charger

**Highly Integrated Microcontroller by ST-Microelectronics:**

- Flash based integrated CPU contains firmware, resident fonts, rotated fonts, downloadable fonts, graphics, logos, and barcodes
- Incorporates Flash and SRAM memory
- Manages all the features supported by the printer

**Low Power Precision Regulator Circuits**

- 8 bit 2 channel A/D circuit to measure system and printer mechanism voltage levels, battery and thermal print head temperature
- Fail safe and CPU watchdog circuits

**Seiko Thermal Print Head:**

- High speed (rated up to 2" per second -- voltage, application and temperature dependent) and high resolution print
- Built-in detectors to monitor voltage and paper-out.
- Automatic thermal print contrast control

**Easy to Integrate:**

- Multiple communication interfaces including Serial, IrDA and Bluetooth™
- MS-DOS and Windows compatible with full-speed handshake
- Print Drivers available for Windows 95, 98, 2000, XP
- Print Utilities available for most Mobile Operating Systems (including Windows CE, Pocket PC, .NET, WM5 and Palm)

**Special Features:**

- Resident fonts to enable printing from 12 to 24 characters per inch
- Printer is in-field programmable for firmware, font and logo setup
- Optional integrated 3-Track Magnetic Card Reader
- Two-bay battery charger

S1500T in environmental case

S1500T with Magnetic Card Reader

**See seperate specification sheet for details of vehicle and desktop printer versions*



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## Print Mechanism:

| | |
|---|---|
| **Printing Method:** | Direct Thermal |
| **Print Resolution:** | 203 dpi/ 8 dots mm |
| **Dots per Line:** | 384 |
| **Printing Width:** | 1. 89" (48mm) |
| **Paper Feed Pitch:** | 0.125mm |
| **Printer Speed:** | Up to 2" per second (50mm/sec) @ 7.2 Volts (actual print speed is dependent on state of battery, temperature and nature of application) |
| **Number of Heat Elements:** | 2 heater/dot, 142 ohms/dot |
| **Head Temperature Detection:** | By thermistor with hardware protection against overheating |
| **Paper-out/Q-Mark/TOF Detection:** | By photo interrupter |
| **Operating Voltage:** | 5V |
| **Current Consumption:** | 3.8A @ 64 dots |
| **Reliability:** | 100 million MCTF (mean characters until fail) @ 25% density |

## Operating Characteristics:

| | |
|---|---|
| **Character set:** | ASCII International, PC Line Draw |
| **Additional Character Sets**: | Simplified Chinese, Hebrew, Arabic, Polish, Korean |
| **Optional Character Sets**: | Downloadable fixed-width fonts |
| **Graphic print**: | Supports 8-bit graphic printing, custom fonts and logo downloading |
| **Bar code Symbologies**: | |
| **Linear**: | Codes 39, Code128, UCC/EAN-128, UPC-A, UPC-E, Interleaved2 of 5, EAN/JAN-8, EAN/JAN-13, Codabar |
| **2 Dimensional**: | PDF417 |
| **Supervisory commands**: | Commands available to read battery voltage, buffer status, firmware and hardware version |
| **Memory**: | |
| **SRAM:** | 32K standard as cache memory (fast, low power memory) |
| **Flash:** | 256K + 32K for program and tables plus downloaded features |
| **Characters per line:** | 24, 32, 38, 40, 42, 48 (s/w command) |
| **Print contrast:** | Auto and user selectable |
| **Special Print** | |
| **Character Attributes:** | Double high, double wide and bold print |

## Communication:

**Interface:**

| | |
|---|---|
| **Standard:** | RS232C (up to 38.4K depending on computer capability)<br>IrDA (up to 38.4K depending on computer capability) |
| **Optional:** | Bluetooth™ V2.0 (optional) |

**Dip Switch Selectable Baud Rate:** 2400 – 38.4K
**Handshaking:** Hardware (CTS/RTS) and/or Software (XON/XOFF)

## Print Media:

| | |
|---|---|
| **Media Type:** | Direct Thermal Paper and Tag Stock; Limited Label Support (Standard paper is Kansaki P390) |
| **Paper Width:** | 2.25" (57mm) |
| **Max Roll Size:** | 56' length @ OD: 1.5" with standard paper |
| **Roll Core ID:** | 0.4" |
| **Lines of Print/Roll:** | 5200 (1.5" diameter roll, 0.4" core, approx. 56' long) |
| **Paper Rolls per Charge:** | ~ 9 |
| **Lines per Charge:** | ~ 47,000 (4" receipt followed by 60 second delay then repeat) |

**(For optimum print quality and printer performance, use Extech supplied paper)**

## Power:

| | |
|---|---|
| **Battery:** | Internal rechargeable 2 cell Lithium-Ion (7.4V; 2200 mAh) |
| **Battery Life:** | 80% of original capacity after 300 cycles (typical) |
| **Recharging:** | 3 hours@ fast rate charge (at empty) |
| **External Charging Options:** | |
| **DC Power Pack:** | 100V – 250V AC input, 10V/1.4 A DC/AC<br>UL listed adapter standard (in-printer charging) |
| **In-Vehicle Charger:** | 12V/24V DC Input, 10V/2A output Cigarette Lighter adaptor |
| **Power ON/OFF:** | Power ON/OFF switch, or by raising RTS input; or sending a single character through serial input. Auto power down timer, can be set or disabled through user application. |

## Software:

Extech Logo Downloading utility
Extech Bluetooth™ Configuration utility

## User Interface:

| | |
|---|---|
| **Status indicators:** | 3 LEDs (2 are multi functioning)<br>Power/ERROR, Charging, Ready/Fault |
| **User switches:** | 2 switches – Power (On/Off), Feed |
| **Connection:** | |
| | RJ type (6 pin) for RS232 Data I/O<br>Infra-Red (IrDA) with Ambient Light Filter (optional)<br>Bluetooth™ V2.0 (optional)<br>Magnetic Card Reader (optional) |

## Mechanical:

| | |
|---|---|
| **Construction:** | Cycolac KJW Enclosure |
| **Dimensions:** | 3.5"W x 5.4"L x 2.5"H (88.9W x 137.2L x 63.5H mm) |
| **Weight:** | |
| **Printer Only:** | 9.7 ounces (300g) |
| **Printer w/s paper and battery:** | 13 ounces (395g) |
| **Warranty:** | |
| **Standard:** | One year standard |
| **Optional:** | Up to 5 years available at extra charge |
| **OEM Products:** | Design services available |

## Enviromental Specifications:

| | |
|---|---|
| **Operating Temperature:** | 14° to 122°F (-10° to 50°C) |
| **Storage Temperature:** | -4° to 140°F (-20° to 60°C) |
| **Charging Temperature:** | 32° to 122°F (0° to 50°C) |
| **Humidity:** | 10 - 90% RH (non-condensing) |
| **Drop:** | Exceeds industry standard for drop |

## Agency Approvals:

| | |
|---|---|
| FCC: Part 15 Subpart B, Class B | Conforms to ANSI/UL STD 60950 and |
| CE: EN60950 | Certified to CAN/CSA STD C22.2 No. |
| CE: EN55022 Class B; | 60950-00 |
| CE: EN61000-3-2; | CB Certified |
| CE: EN61000-3-3; | ETL Listed, Control # 3046813 |
| CE: EN50024 | IEC 68 Certified |
| AS/NZ: 3548 Class B | GS Certified, #04US00384-1 |
| Complies with EMC Directive 89/336/EEC | IP54 Rated (with Environmental Case) |
| and Low Voltage Directive 73/23/EEC | |

## Ordering Information:

The S1500T series comes standard with IrDA, RS-232, battery, 1 roll of paper, Universal AC Adapter (180-minute Fast Charge) and a 1 year warranty that includes the print head.

| | |
|---|---|
| 78318I1 | S1500T with RS-232 and IrDA Interface (Universal Adaptor) |
| [ ] | add "R" for 3-Track Magnetic Card Reader (e.g. 78318I1R) |
| [ ] | add "-1" for Bluetooth option (e.g. 78318I1R-1) |

Accessories:

| | |
|---|---|
| 756998-2 | Belt Loop System |
| 756983 | IP54 Certified Environmental Case |
| 157260 | Universal Adaptor – (US, UK, EURO & Australian) |
| 757351 | Shoulder Strap with Quick Clip |
| 757060 | Spare paper, pkg. of 5 rolls |
| 757060-CASE | Spare paper (Case of 200 rolls) |
| 7A100014 | Spare battery (2200 mAh) |
| 767400-1 | 2-bay battery charger (US plug) |
| 767400-2 | 2-bay battery charger (EURO plug) |
| 767400-4 | 2-bay battery charger (UK plug) |
| 5892RJD9 | Coiled Cable (RJ to D9) |
| 151133 | 12V/24V In-Vehicle Adaptor (with battery in printer) |

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